

In re Application of: Gil ZWIRN et al
Serial No.: 10/585,376
Filed: January 31, 2008
Office Action Mailing Date: April 14, 2009

Examiner: Jose L. COUSO
Group Art Unit: 2624
Attorney Docket: 32187

REMARKS

Reconsideration of the above-identified application in view of the amendments above and the remarks following is respectfully requested.

Claims 1, 3, 4, 5, 15, 19, 20, 21, 25, 26, 40, 41, 46, 47, 48, 50, 51, 63, 65, 66, 67, 77, 81-85, 91, 92, 104, 105, 106, 111-115 and 126-129 are in this Application.

Claims 1, 3-5, 15, 19-21, 25, 26, 40, 41, 46-48, 50, 51, 63, 65-67, 77, 81-85, 91, 92, 104-106, 111-115 and 126-129 have been rejected.

Claims 1, 40, 63 and 104 have been amended herewith.

35 U.S.C. § 101 Rejections

The Examiner rejected claims 63, 65-67, 77, 81-85, 91-92, 104-106, 111-115 and 128-129 under 35 U.S.C. § 101, stating that the claims are directed to non-statutory subject matter since these claims define functional descriptive material per se.

The Examiner further rejected claims 1-5, 15, 19-21, 25-26, 40-41, 46-48, 50-51 and 126-127 under 35 U.S.C. § 101, stating that the claims are directed to non-statutory subject matter since the claim language is sufficiently broad to read on a person mentally going through the steps.

Without acquiescing to the propriety of the § 101 rejection, and in a good-faith attempt to further prosecution, Applicant has amended claims 63 and 104 to recite "being embodied on a computer-readable medium" so as to more clearly distinguish the claims from a purely functional descriptive subject matter, and claims 1 and 40 to recite "being performed by a data processor" so as to more clearly distinguish the claims from a pure mental process.

Applicant submits that the above amendments to the claims are not substantive and that they do no more than to make explicit what was already claimed implicitly.

Applicant notes that no reference was cited against independent claims 40 and 104. In light of the above amendments, it is believed that these claims no longer stand rejected under 35 U.S.C. § 101 and are therefore allowable.

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35 U.S.C. § 102 Rejections

Claims 1, 3-5, 15, 19-20, 63, 65-67, 77, 81-83, 126 and 128 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Tretter. With regard to claims 1 and 63, the Examiner states that Tretter describes fitting the intensity histogram to a sum of a plurality of localized functions, defining a plurality of localized functions to define a plurality of localized intensity histograms, performing for each localized intensity histogram at least one image enhancement procedure, and combining the plurality of improved localized intensity histograms.

Applicant respectfully traverses the rejection and states that the Examiner has not established a *prima facie* case of anticipation regarding the claims, since Tretter lacks least one limitation of independent claims 1 and 63.

The following remarks relate primarily to independent claims 1 and 63. The dependent claims are patentable at least by virtue of their dependency on their parent claims.

Tretter teaches a method of producing contrast enhanced digital images. A luminance histogram is divided into clusters. The histogram is divided into clusters using a pattern matching technique, wherein patterns in the histogram that resemble Gaussian distributions and patterns that resemble uniform distributions are separated into individual clusters. Histogram equalization or stretching is then performed on each cluster to produce a modified histogram. The modified histogram is used to adjust the value of the luminance to produce a contrast enhanced image.

Claims 1 and 63 recite the feature that the intensity histogram is fitted to a sum of localized functions. For this feature, the Examiner refers to element 219 (FIG. 4) of Tretter. Element 219 is a histogram equalizer or histogram stretcher which performs histogram equalization or histogram stretching on the adjusted clusters (see column 6 lines 42-46). It is submitted that element 219 is not functionally equivalent to the fitter of claim 63 for at least two reasons.

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Firstly, a fit to a sum of localized functions is not equivalent to histogram equalization or histogram stretching. The operation of histogram equalization is described in column 11 line 40 to column 12 line 11 of Tretter. Briefly, the operation includes remapping of an input set of bins to an output set of bins to generate downward or upward spikes as shown in FIGS. 9b-d of Tretter. Nowhere in this passage is there even a hint of a fitting procedure.

Secondly, contrary to claims 1 and 63 in which the fitting is performed on the intensity histogram of the original image, Tretter's element 219 performs histogram equalization on the individual clusters, namely only after the histogram is divided and each cluster is adjusted.

Thus, element 219 is not *prima facie* anticipatory to the claimed feature since it has a substantially different function (equalization and not fitting), and it operates on a different entity (adjusted cluster which is not the original intensity histogram).

It is noted that claim 1 and 63 explicitly recite that the fitting is to a sum of localized functions. Tretter is completely silent with respect to such fit. It is submitted that although Tretter separates between patterns that resemble Gaussian distributions and patterns that resemble uniform distributions, this cannot be considered as fitting the histogram to a sum of localized functions. Firstly, from a mathematical point of view, a uniform distribution is not a localized function since it does not have a local support. Secondly, Tretter looks for patterns within the histogram and does not perform a fit to the histogram as a whole. Thirdly, Tretter does not use a sum of localized functions (Applicant notes that a Gaussian, although being a localized function by itself, is not a sum of localized functions).

It is therefore submitted that Tretter does not anticipate the claims at least because Tretter does not teach fitting the intensity histogram to a sum of a plurality of localized functions.

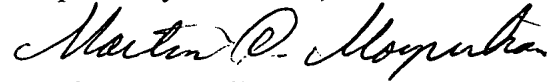
While the dependent claims were not separately argued in order to simplify the response, Applicant submits that at least some of the dependent claims add patentable subject matter.

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In view of the above amendments and remarks it is respectfully submitted that the claims are now in condition for allowance. A prompt notice of allowance is respectfully and earnestly solicited.

Respectfully submitted,



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Date: September 3, 2009

Enclosure:

- Petition for Extension (2 Months)